

**Module Title : DO292: Red Hat OpenShift Development II: Creating Microservices with Red Hat OpenShift Application Runtimes**

**Duration : 4 days**

## Overview

Like members of many organizations, you may be interested in or are already employing microservice architectures. We have introduced solutions to ease the on-ramp for the creation and deployment of microservices through its developer programs and Red Hat® OpenShift Application Runtimes.

## Course Summary

- Deploy microservices with WildFly Swarm.
- Deploy microservices with Vert.x.
- Deploy microservices with Spring Boot.
- Develop an API gateway.
- Implement fault tolerance with Hystrix.

## Audience

- Java application developers interested in employing microservices architectures
- Software architects interested in creating and deploying microservices

## Prerequisites

Red Hat recommends these prerequisites:

- Have completed Red Hat Application Development I: Implementing Microservice Architectures (JB283), or demonstrate equivalent experience with microservice architecture
- Being a Red Hat Certified System Administrator (RHCSA) or higher is helpful, for navigation and usage of the command line
- Being a Red Hat Certified Specialist in Containerized Application Development, completing Red Hat OpenShift Development I: Containerizing Applications (DO288), or experiencing developing and deploying containerized applications to an OpenShift cluster

## Course outline

### Deploy microservices to an OpenShift cluster

Deploy an application based on a microservice architecture to an OpenShift cluster.

### Deploy microservices with the WildFly Swarm runtime

Develop and deploy a microservice using the WildFly Swarm runtime.

### Develop microservices with the Vert.x runtime

Develop and deploy a microservice using the Vert.x runtime.

### Develop microservices with the Spring Boot runtime

Develop and deploy a microservice using the Spring Boot runtime.

### Develop an API gateway

Develop and deploy an API gateway using the WildFly Swarm runtime.

### Implement fault tolerance with Hystrix

Administer fault tolerance in a series of microservices using the Hystrix libraries.

## Impact of this training

### Impact on the organization

Many organizations are struggling with how to make the move from monolithic applications to applications based on microservices as they seek to reorganize their development paradigm to reap the benefits of microservice development in a DevOps economy. In particular, many organizations are invested in Java programming frameworks and Red Hat OpenShift Container Platform. This course exposes you to the application runtimes that are streamlined for deployment on OpenShift clusters, focusing on how to develop microservices in three of the OpenShift application runtimes. You will learn to select the appropriate runtime(s) for the organization and have a jump start on the development of cloud-native applications ready for deployment on OpenShift, thus supporting the organization's investment in OpenShift.

Red Hat has created this course in a way intended to benefit our customers, but each company and infrastructure is unique, and actual results or benefits may vary.

### Impact on the individual

As a result of attending this course, you will be exposed to three of the Java-based OpenShift application runtimes: WildFly Swarm, Vert.x, and Spring Boot. This course teaches the differences between these platforms and shows how each platform is best suited for various types of use cases. You will have the opportunity to develop real-world applications in each of the three runtimes.

You should be able to demonstrate these skills:

- Determine which of the three runtimes is appropriate for a given use case.
- Develop a simple microservice in each of the three runtimes, given appropriate documentation and examples.
- Deploy microservices that interact with one another using the Red Hat OpenShift Container Platform.